

## **Biological Evaluation**

### **Longley Meadows Fish Habitat Enhancement Project**

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## **WILDLIFE BIOLOGICAL EVALUATION**

### **Introduction**

An endangered species is an animal or plant species listed under the Endangered Species Act that is in danger of extinction throughout all or a significant portion of its range. A threatened species is an animal or plant species listed under the Endangered Species Act that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. A sensitive species is an animal or plant species identified by the Forest Service Regional Forester for which species viability is a concern either a) because of significant current or predicted downward trend in population numbers or density, or b) because of significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. The R6 Sensitive Species list pertinent to this project is dated March, 2019. Threatened, endangered, and sensitive species effects are summarized in this report by TES status and species.

As part of the National Environmental Policy Act (NEPA) decision-making process, biological evaluations (BE) are required to determine how proposed FS management activities may affect Proposed, Endangered, Threatened, or Sensitive (PETS) species or their habitats (U.S. Forest Service Manual [FSM] 2670). This evaluation presents existing information on PETS species and their habitat in the project area, and describes the anticipated direct, indirect, and cumulative effects resulting from the proposed project. The review is conducted to ensure that FS actions do not contribute to the loss of species viability or cause a species to move toward federal listing (43 U.S.C. 1707 et seq). Threatened and Endangered species are managed under authority of the Federal Endangered Species Act (ESA) (36 U.S.C. 1531-1544) and the National Forest Management Act (NFMA) (16 U.S.C. 1600-1614). The ESA requires Federal agencies make certain all actions they authorize, fund, or carry out will not likely jeopardize the continued existence of any threatened or endangered species. Sensitive species are those recognized by the Region 6 Regional Forester as needing special management to meet NFMA obligations. FS policy requires a BE to determine possible effects to sensitive species from proposed management activities.

### **Project Overview**

The La Grande Ranger District has initiated a cooperative agreement with the Bonneville Power Administration, Bureau of Reclamation, and the Confederated Tribes of the Umatilla Indian Reservation to design, analyze and plan fish habitat restoration activities associated with the Longley Meadows Fish Habitat Enhancement Project. The analysis area is approximately 10 air miles west of La Grande, Oregon along approximately 1.5 miles of the Grande Ronde River along State Highway 244. The project area is in the vicinity of Spring Creek and Longley Meadows and includes 1.25 miles of river on National Forest system lands and 0.25 miles on state and privately owned lands beginning near river mile 143.45 and continuing downstream to river mile 142.15. No activities are proposed on private lands owned by Bear Creek Ranch Quarter Horses adjacent to the project area. The project area is entirely within the Coleman Ridge-Grande Ronde River sub-watershed within the Grande Ronde River-Beaver Creek watershed. Approximately 111 acres of the project area are located on National Forest System (NFS) lands, 13 acres on State/ODOT lands, and 15 acres on private lands. The general legal description is Township 3 south, Range 36 east, sections 11, 12, and 14.

To address limited habitat conditions for native fish within the project area, the proposed action would re-establish natural river-floodplain connections and processes. Natural processes within this reach of the Grande Ronde River (GRR) include multiple channel networks usually created through forcing mechanisms of large wood, ice, beaver, and rock.

Channel reconstruction would include both instream work (wood placement and fill) and extensive channel construction activities (refer to the attached map for detailed activities and locations). New channel construction would be focused on relocating all or a portion of the river channel to the south floodplain to

allow it to re-engage with several historic channel swales and desired pond features. Large wood features would be added throughout the project. Additionally, selective removal of floodplain fill to include the historic Mt. Emily Railroad grade is proposed. Additional side channels and alcove features would be enhanced at historic channel meander scars and depressions throughout the floodplain area that may require additional some additional excavation to meet grade.

Large wood features would be constructed from locally sourced logs from National Forest and private lands. Wood structures are a combination of root wads, cut log boles, and slash material. Large wood structures would be embedded in the bed and banks of the channel and floodplain to provide stability and to resist ice forces. Logs would be trucked to the project site and stored in pre-established staging areas and then transported to their project locations by off-road dump truck or helicopter depending on site conditions and environmental concerns. Excavators would be used for large wood construction

### Pre-field Review

The list of federally-listed species applicable to the planning area was obtained from the U.S. Fish and Wildlife Service (USDI Fish and Wildlife Service 2011). The USFS Region 6 Regional Forester's Sensitive Species List, dated March, 2019 (USDA Forest Service 2019) was reviewed for sensitive species potentially applicable to the Longley Meadows Project.

The project area was evaluated for PETS species to determine which species might occur in or near it, based on scientific literature, habitat availability, and La Grande Ranger District (RD) records of each species. No population surveys were conducted for any of the species addressed in this BE. Only those PETS known or suspected to occur, on the La Grande Ranger District, are addressed in this BE (Table 1). Sensitive species lacking potential distribution or suitable habitats within the analysis area are not addressed further in the analysis, and all alternatives would have **No Impact** on these species and/or habitats.

**Table 1. PETS Species Review, WWNF and Longley Meadows Project Area**

Status	Species	WAW <sub>2,3</sub>	La Grande District <sub>3</sub>	Longley Meadows Project Area <sub>4</sub>	Addressed in this BE	Effects Determination <sub>5</sub>
	<b>AMPHIBIANS</b>					
Sen	Rocky Mt tailed frog <i>Ascaphus montanus</i>	D	K	N		
Tailed frogs are strongly adapted to cold water conditions. They occur in very cold, fast-flowing streams that contain large cobble or boulder substrates, little silt, often darkly shaded, and less than 20°C (Bull and Carter 1996). Tailed frogs are not known to occur in the project area and streams located in the area do not provide suitable habitat.						
Sen	Columbia spotted frog <i>Rana luteiventris</i>	D	K	K	X	BI
This species is found at aquatic sites in a variety of vegetation types, from grasslands to forests (Csuti et al. 1997). Spotted frogs have been documented in the project area and suitable habitat exists within the project area.						
	<b>BIRDS</b>					
Sen	Northern bald eagle <i>Haliaeetus leucocephalus</i>	D	K	N	X	MIH
Nesting habitat consists of large conifers within 1 km of water containing adequate supply of medium to large fish (Johnsgard 1990). The project area contains potential nesting, foraging and roosting habitat and the potential for species occurrence, however no roosting or nesting trees would be affected during project activities.						
Sen	American peregrine falcon <i>Falco peregrinus anatum</i>	D	K	N		
Suitable nesting habitat consists of cliffs, usually within 900 meters of water (Pagel 1995). No nest sites or suitable nesting habitats are known within the project area.						
Sen	Harlequin duck	S	N	N		

	<i>Histrionicus histrionicus</i>					
Harlequin ducks winter in rough coastal waters and breed in mountain streams and rivers. Most breeding sites are on relatively rapid streams of moderate size, typically surrounded by undisturbed forest. Breeding requirements appear to be wide riparian vegetative zone, braided or multi-channel streams with islands for nesting and roosting and minimal human activity. Harlequin ducks have been documented along the Imnaha, Wallowa and Lostine Rivers. Lone individuals have been documented along the Grande Ronde river. Lack of breeding requirements within the subwatershed of the project area indicates occurrence is unlikely.						
Sen	Columbian sharp-tailed grouse <i>Tympanuchus phasianellus columbianus</i>	D	N	N		
Potential habitats consist of bunchgrass prairies interspersed with stream bottoms containing deciduous shrubs and trees. The species was extirpated from Oregon, but has been reintroduced into northern Wallowa County (ODFW 2010). No sightings or potential suitable habitat occur within or adjacent to the project area. Occurrence within the project area is unlikely.						
Sen	Upland sandpiper <i>Bartramia longicauda</i>	D	K	N		
Suitable habitats in Oregon consist of large montane meadows ranging from 1,000 to 30,000 acres, generally surrounded by lodgepole pine (Marshall et al. 2003). The project area lacks suitable habitat, and no known sightings are reported for the area.						
Sen	Greater sage grouse <i>Centrocercus urophasianus phaios</i>	D	K	N		
Suitable habitats are associated with sagebrush. The project area lacks suitable habitat and known sightings for sage-grouse.						
Sen	Lewis' woodpecker <i>Melanerpes lewis</i>	D	K	H	X	BI
Primary breeding habitats include open ponderosa pine, riparian cottonwood, and logged or burned pine (Tobalske 1997). Project area has the potential to provide habitat through restoration efforts.						
Sen	White-headed woodpecker <i>Picoides albolarvatus</i>	D	K	N		
Nesting habitat consists of open-canopy stands with mature and over-mature ponderosa pine (Buchanon et al. 2003). Impacted areas do not contain suitable habitat for white-headed woodpeckers.						
	<b>MAMMALS</b>					
T	Canada lynx <i>Felix lynx canadensis</i>	D	K	N	X	NE
The species is classified as "not present" on the WWNF						
Sen	North American wolverine <i>Gulo gulo luteus</i>	D	K	N		
Preferred habitat consists of alpine and subalpine areas with little or no human presence. Project area does not contain suitable denning habitat but the potential for a wolverine to move through the project area exists.						
Sen	Gray wolf <i>Canis lupus</i>	D	K	N		
Gray wolves are habitat generalists inhabiting a variety of plant communities, typically containing a mix of forested and open areas with a variety of topographic features. No denning sites are known in the vicinity of the project area but the potential for wolves to move through the project area exist.						
Sen	Fringed myotis <i>Myotis thysanodes</i>	D	K	H		
This bat is found throughout much of western North America and has been documented on the Wallowa-Whitman. Roosting in decadent trees and snags is common throughout its range. Lack of trees within the project area						
Sen	Townsend's big-eared bat <i>Corynorhinus townsendii</i>	D	K	N		
This bat roosts in buildings, caves, mines, and bridges and the presence of suitable roost sites is more important than the vegetation type in determining the distribution of this bat. There are no known roost sites for Townsends within the Longley Meadows project area, however riparian restoration has the potential to increase prey species						
Sen	Spotted bat <i>Euderma maculatum</i>	S	H	N		
Spotted bats primarily rely on crevices and caves in tall cliffs for roosting which likely determine their distribution. The Longley Meadows project area lacks tall cliffs, making occupancy unlikely.						

	INVERTEBRATES					
Sen	Intermountain sulphur <i>Colia Christina pseudochristina</i>	D	H	N		
Suitable habitat consists of sagebrush with scattered Ponderosa Pine. Lack of sagebrush within the project area makes occurrence unlikely						
Sen	Silver-bordered fritillary <i>Boloria selene</i>	S	N	N		
Suitable habitat consists of bog and marshes, often willowy sites, sometimes tall wet grass (Pyle 2002). Only three sites are reported for Oregon, the closest of which is located north of the town of Halfway on private land. No larval host species are reported for the project area, and suitable habitat for this species is unlikely.						
Sen	Western bumblebee <i>Bombus occidentalis</i>	D	K	H	X	MIH
The western bumblebee is a habitat generalist and inhabits a wide variety of habitat types, associated with flowering plants. Recent surveys across the Wallowa-Whitman has found them to be distributed across multiple elevations and habitat types. No sightings have been documented within the project area but habitat and distribution indicates occurrence is likely.						
Sen	Suckley Cuckoo bumblebee <i>Bombus suckleyi</i>	D	K	H	X	MIH
The suckle cuckoo bumblebee is in the subgenus Psithyrus and is unique in that they are dependent on another Bombus sp. to serve as a host for their eggs. No sightings have been documented within the project area but habitat and distribution indicate indicates a potential for occurrence.						
Sen	Morrisoni Bumblebee <i>Bombus morrisoni</i>	S	H	N		
The Morrisoni bumblebee is a generalist forager and has been reported visiting a wide variety of flowering plants. Recent analysis (Hatfield et al. 2014) indicates this species has undergone significant declines throughout much of its range over the Western United States This species is known throughout the US Mountain West from CA east of the Sierra-Cascade Ranges to southern BC, in the Deset West and east to NM, TX and north to western SD (Williams et al. 2014). Surveys across the Wallowa-Whitman from 2014-2018 have not detected this species. The lack of open, dry scrub in the project area makes this species unlikely to occur.						
Sen	Yuma skipper <i>Ochlodes yuma</i>	D	N	N		
This species has been documented along the Imnaha River in Wallow Co. It is closely associated with its host plant Phragmites australis. Lack of the presence of the host species within the project area makes occurrence highly unlikely.						
Sen	Hells Canyon land snail <i>Cryptomastix populi</i>	D	N	N		
Land snail found in rather open and dry large-scale basalt taluses, generally at lower elevations. Most colonies occur at slope bases along the major river corridors, not in major tributaries. Associated vegetation includes <i>Celtus</i> , <i>Artemisia</i> , <i>Prunus</i> , <i>Balsamorhiza</i> , and <i>Seligeria</i> . Surrounding vegetation is generally sage scrub. Generally in steep north or east-facing taluses, often only at the base. Occasionally found in meta sedimentary taluses as well (Frest and Johannes 1995). Lack of large scale basalt talus makes the occurrence of this species unlikely.						
Sen	Columbia Gorge Oregonian <i>Cryptomastix hendersoni</i>	D	N	N		
Land snail found in rather open and dry large-scale basalt taluses, generally at lower elevations. Most colonies occur at slope bases along the major river corridors, not in major tributaries. Associated vegetation includes <i>Celtus</i> , <i>Artemisia</i> , <i>Prunus</i> , <i>Balsamorhiza</i> , and <i>Seligeria</i> . Surrounding vegetation is generally sage scrub. Generally in steep north or east-facing taluses, often only at the base. Occasionally found in meta sedimentary taluses as well (Frest and Johannes 1995). Lack of large scale basalt talus makes the occurrence of this species unlikely.						
Sen	Umatilla megomphix <i>Megomphix lutarius</i>	D	K	N		
Land snail found within talus, closely associated with intact conifer forests, riparian areas or both. Thought to potentially be extinct due to lack of relocations, surveys conducted on the Umatilla in 2012 and within the La Grande district on the Wallowa-Whitman in 2016 found this species in 3 separate sites. Lack of conifer forests within the project area makes the occurrence of this species unlikely.						
Sen	Blue Mountainsnail <i>Oreohelix strigose delicata</i>	S	H	N		
<i>Oreohelix strigosa</i> is a snail of riparian habitat and open forest, typically found in rock talus, shrubby areas, or under forest litter (Burke 2013) fairly open ponderosa pine and Douglas-fir forest with some deciduous understory and common grasses. Refugia sites for aestivation are assumed to be located under more stable rock schist and woody debris. Surveys conducted on the Wallowa-Whitman did not locate this species, though another thought to be undescribed species of <i>Oreohelix</i> was found on the La Grande district within a talus slope above a riparian area. It is unlikely this species occurs within the project area, due to its rarity.						

Sen	Fir pinwheel <i>Radiodiscus albigetum</i>	D	H	N		
Most often found in moist and rocky Douglas-fir forest at mid-elevations in valleys and ravines (Frest and Johannes 1995). Known distribution in Oregon is limited to extreme NE (above Weston, Umatilla Co.; Duncan 2008). Surveys conducted on the Umatilla and Wallowa-Whitman NF in 2016 and 2018 found this species in multiple sites within dry and moist forest associated high canopy cover (<65%). Lack of forested stands within the project area makes the occurrence of this species unlikely.						
Sen	Shiny tightcoil <i>Pristiloma wascoense</i>	D	D	N		
Most sites for this species are in ponderosa pine and douglas fir forests at moderate to high elevations. Quaking aspen also provides habitat. Other <i>Pristiloma</i> species in the ecoregion are known to prefer moist microsites such as basalt talus accumulations, usually with riparian influence (Frest and Johannes 1995). Recent surveys across the Wallowa-Whitman in 2016 and 2018 found this species in a number of sites within dry and moist forest associated with high canopy cover (<65%). Lack of forested stands within the project area makes the occurrence of this species unlikely.						

Sen = Sensitive. T = Threatened

<sup>1</sup> D = Documented occurrence, S = Suspected occurrence (USDA Forest Service 2009).

<sup>2</sup> K = Known to occur, S = Suspected to occur, H = Not known to occur, but habitat present, N = No habitat present and/or not present.

## Methodology

In general, the analysis area is the same as the project area unless stated below for each species. For cumulative effects, past activities within the project area have been incorporated into the existing condition descriptions below. Present and reasonably foreseeable future actions are described in Appendix D of the EA. Those actions which overlap in time and space with the Longley Meadows project which would have a measurable cumulative effect on each of these species are described in the cumulative effects discussions below.

## COLUMBIA SPOTTED FROG (*Rana luteiventris*)

The Columbia spotted frog is one of several amphibians in the Western United States experiencing population declines. Amphibians are good indicators of overall health in forest and rangeland ecosystems because of their dependence on water for reproduction, their unshelled eggs, and their permeable skin, all of which make them particularly sensitive to water-soluble environmental toxins (Bull 2005).

**Habitat Information** - This species is found at aquatic sites in a variety of vegetation types, from grasslands to forests (Csuti et al. 1997). It is highly aquatic and is usually near cool, permanent, quiet water. It is found in marshes, wet meadows, permanent ponds, lake edges, and slow streams with non-woody wetland vegetation, but may move considerable distances across uplands after breeding (Stebbins 1985, Corkran and Thoms 2006). Bull and Hayes (2001) recorded migration distances ranging from 15 to 560 m in northeastern Oregon. Migrations often followed shortest distance travel routes through dry, open forest, rather than along riparian corridors. Breeding occurs in shallow water at pond edges, stream margins, and inundated floodplains. Egg masses are free-floating and tadpoles live in the warmest parts of the water. Springs, ponds, and backwaters may be used as over-wintering sites for local populations of spotted frogs (Hayes et al. 1997). Larvae have a diet of algae, plant material, and other organic debris (Csuti et al. 1997). Adults eat insects, spiders, mollusks, crayfish, and slugs.

**Occurrence Information**- The Columbia spotted frog occurs locally in eastern Oregon (Csuti et al. 1997). A study conducted from 1997-2004 in northeastern Oregon found that the frog is widely distributed throughout northeastern Oregon where permanent ponds and rivers or creeks occur, and that although populations are generally not large, numerous small ones occur, particularly when connected by flowing water (Bull 2005). Instream habitat and riparian areas have been changed from historical conditions due to many activities that have occurred over the years. The project area lacks shallow pools necessary for breeding. Spotted frog egg mass surveys along the Grande Ronde are conducted annually by the La Grande district biologist. Spotted

frogs have not been documented in the project area but they occur in multiple areas upstream along the Grande Ronde River and directly across the highway.

**Threats-** Threats to the Columbia spotted frog include habitat degradation and destruction through agricultural development, intensive livestock grazing, spring development, urbanization, mining activities and climate change. Fragmentation of habitat may be one of the most significant barrier to Columbia spotted frog recovery and population persistence.

### **Direct and Indirect Effects**

**Alternative 1\_-** Under alternative 1, the project area would continue to lack the shallow water and structure necessary for spotted frogs to occupy the habitat.

**Alternative 2-** Under this alternative large wood structures would be placed within the riverbed to create better channel control and habitat through pool creation. New channel construction would be focused on relocating all or a portion of the river channel to the south floodplain to allow it to re-engage with several historic channel swales and desired pond features. In the short term (3-5 years) construction activities would remove any potential habitat for spotted frogs, affect adult movement and potentially cause direct mortality to adults through construction activities. In the medium to long term (5 years on), increased pooling habitat and healthy river flow would create more breeding habitat for the spotted frog, reduce fragmentation and help maintain steady populations.

### **Cumulative Effects**

**Alternative 1 -** There are no cumulative effects from selecting this alternative. Any changes that would occur over time as a result of selecting this alternative simply reflect the evolving baseline conditions for the area.

**Alternative 2-** Past activities that have affected spotted frog habitat include grazing, fire suppression and logging and have been incorporated into the existing conditions. Ongoing and future livestock grazing is expected to be maintained at the current level and have minimal effect on suitable habitat. The Bird Track Springs Fish Enhancement project occurs within the same subwatershed as Longley Meadows and is currently in the implementation stage. This project implements the same restoration activities as Longley Meadow on an additional 1.2 miles of river. *Longley Meadows would contribute to cumulative effects within the subwatershed resulting in a total of 2.45 miles of impact.*

### **Determination**

The Longley Meadows project area may be inhabited by spotted frogs and would contribute to cumulative effects within the subwatershed. In the short term, the action alternatives may impact individual frogs (**MIHH**) but would not likely lead to a downward trend in the population or trend toward federal listing. In the medium to long term, the action alternative would have a Beneficial Impact (**BI**) to the spotted frog by providing more breeding habitat.

### **BALD EAGLE** (*Haliaeetus leucocephalus*)

The bald eagle ranges throughout much of North America, nesting on both coasts and north into Alaska, and wintering as far south as Baja California. The largest breeding populations in the contiguous United States occur in the Pacific Northwest states, the Great Lakes states, Chesapeake Bay, and Florida. In Oregon, species numbers vary by season and include breeding, migration and wintering populations. The breeding



season begins in late February or March, with juveniles fledging between mid-July and early September (Marshall et al. 2003).

**Habitat Information-** Nesting territories are normally associated with lakes, reservoirs, rivers, or large streams. In the Pacific Northwest recovery area the preferred nesting habitat for bald eagles is predominately uneven-aged, mature coniferous (ponderosa pine, Douglas-fir) stands or large black cottonwood trees along a riparian corridor. Eagles usually nest in mature conifers with gnarled limbs that provide ideal platforms for nests (Marshall et al. 2003).

**Occurrence Information-** Bald eagle surveys are conducted annually by district biologists along the Grande Ronde River. There is a known bald eagle nest site that occurs on private land adjacent to the project area. A bald eagle pair has nested consistently in this site for multiple years and are expected to continue barring disturbance.

**Threats-** Threats to the Bald Eagle include habitat degradation and destruction and environmental contaminants. The Bald Eagle was declared threatened under the ESA because of a declining number of nesting pairs and reproductive problems caused by environmental contaminants. Listing resulted in a ban of DDT, protection of eagle habitat and restrictions on human activities near nest and roost sites. Site-specific planning was recommended near nest and roost sites. Improved nesting success and a population increase led to a 1999 proposal to delist federally (Marshall et al. 2003.)

## **Direct and Indirect Effects**

**Alternative 1 -** There would be no direct adverse effects to bald eagles from the No Action Alternative because no timber harvest, stream restoration, or transportation activities would occur.

**Alternatives 2 –** There would be no direct effects of the proposed action because the nearest known nest is outside the buffer required to avoid direct disturbance. Any additional nests that are found would receive protection from disturbance through 1) A no activity buffer of 600ft and, 2) Timing restrictions from Feb 15<sup>th</sup>- August 15<sup>th</sup>. Project activities would affect several large cottonwood trees within the riparian area along the Grande Ronde River through direct removal. This would remove roosting habitat in the short to medium term. The project is designed to avoid the majority of existing cottonwood habitat. Cottonwood cuttings along with other riparian hardwoods would be planted after construction activities are completed and ideally would contribute to a functional riparian community. Successful riparian restoration would encourage large hardwood structure along the river and increase fish populations which could have a beneficial impact on Bald Eagles in the long term through an increase in roosting and foraging habitat.

## **Cumulative Effects**

The area considered for cumulative effects is the project area, as well as the area within one mile of the project area boundary. One mile is the distance described as a threshold for disturbance of nesting bald eagles (USDA Forest Service 2009) and would encompass shorter disturbance distance for foraging eagles. All of the activities in Appendix D have been considered for their cumulative effects on bald eagles and their habitat. Ongoing and foreseeable activities considered in this cumulative effects analysis include firewood cutting, travel of open roads, summer and winter recreation, livestock grazing, and prescribed fire activities outside the project area. The Bird Track Springs Fish Enhancement project occurs within the same subwatershed as Longley Meadows and is currently in the implementation stage. This project implements the same restoration activities as Longley Meadow on an additional 1.2 miles of river. A bald eagle nest site is known with the Bird Track Springs Fish Enhancement project and is protected with a no activity buffer and timing restrictions. The Longley Meadows project would contribute to long term positive cumulative effects of riparian restoration.

## Determination

Short-term disturbance effects would be mitigated through buffers and timing restrictions. Long term the project activities would have a positive effect on the availability of bald eagle nesting or winter foraging/roosting habitat. Project activities would not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species (MIIH).

## LEWIS' WOODPECKER (*Melanerpes lewis*)

Lewis' woodpecker breeds from southern British Columbia, southwestern Alberta, Montana, and parts of South Dakota and Nebraska, south to central California, and portions of Colorado, Arizona, and New Mexico. The species winters in milder portions of this range from northern Oregon to northern Mexico and west-Texas. In Oregon, the species was formerly widespread. It is known to breed in the eastern Cascades, and in low numbers along river and stream valleys in central and eastern Oregon (Marshall et al. 2003).

**Habitat Information-** The species' five major habitat types include ponderosa pine, oak-pine woodlands, cottonwood riparian forests, and areas burned by fire. Special needs consist of aerial insect populations for foraging, large soft or well-decayed snags for nesting, and relatively open canopy for flycatching (ODFW 2006). Thomas (1979) identified the minimum snag diameter suitable for Lewis' woodpecker as 12 inches, while Saab and Vierling (2001) reported average snag size used by the species in conifer stands as about 18 inches DBH (diameter base height). According to Sousa (1983), habitat suitability is moderate or greater when canopy closure is less than 50% and optimal when canopy is less than 30%. Other components of suitable habitat include at least one snag per acre greater than 12 inches DBH and an available shrub layer (Sousa 1983).

The potential importance of post-fire habitats has also been identified. Saab and Vierling (2001) state that large-scale burned areas may play a critical role in providing ephemeral source habitats for this species. Block and Brennan (1987) reported the species more frequently occurring in burned versus non-burned habitats and burned areas supported the only observed nest sites on the Modoc Plateau as did Raphael and White (1984) for their study located in the Sierra Nevada.

**Occurrence Information-** Suitable habitat currently exists within forested habitat within 1 mile directly north of the project area. A previous stand replacing fire adjacent to pockets of Old Forest Single Story ponderosa pine provides nesting habitat. Known nests occur within this area. Potential habitat is present within ponderosa pine associations to the north and south of the project area on Forest Service land.

**Threats-** Lewis woodpecker is declining throughout its range, possibly due to loss of suitable habitat, destruction of lowland oak habitat, prospects for nest and food storage trees, competition for nest holes, and effects of pesticides (Marshall et al. 2003).

## Direct and Indirect Effects

**Alternative 1** - There would be no direct adverse effects to Lewis' woodpecker from the No Action Alternative because no timber harvest, **stream restoration**, or transportation activities would occur.

**Alternative 2**– Project activities would affect several large cottonwood trees within the riparian area along the Grande Ronde River through direct removal. The project is designed to avoid the majority of existing cottonwood habitat. Cottonwood cuttings along with other riparian hardwoods would be planted after construction activities are completed and ideally would contribute to a functional riparian community. There are no known Lewis’ woodpecker nests where project activities are proposed but there is the potential for disturbance to nesting birds and a reduction in habitat in the short term (5-10 years).

### Cumulative Effects

Lewis’ woodpeckers have relatively small home ranges (15 acres, Thomas 1979). All of the activities in Appendix D of the EA have been considered for their cumulative effects on Lewis’ woodpeckers and their habitat. Past activities such as removal of larger ponderosa pine and fire suppression have combined to create conditions that are largely marginal or unsuitable for this species, where historically habitat was more readily available. Firewood cutting could cause additional loss of snags along roads. Livestock grazing would continue at existing levels. The Bird Track Springs Fish Enhancement project occurs within the same subwatershed as Longley Meadows and is currently in the implementation stage. This project implements the same restoration activities as Longley Meadow on an additional 1.2 miles of river. Project activities would contribute to cumulative effects resulting in 2.45 miles of riparian habitat affected. The Bird Track Springs Campground Project and Fish Log project occur across the highway from the river restoration and within the same subwatershed. Project activities would remove trees within potential habitat for Lewis’ woodpecker, however no trees over 21 dbh and so snags would be affected by either project so cumulative effects are expected to be minimal.

### Determination

The proposed action has the potential to disturb nesting woodpeckers and marginally reduce habitat in the short term (5-10 years) and contribute to cumulative effects within the subwatershed. Project design features would preserve the majority of available riparian habitat and post-treatment planting would increase the quality and quantity of habitat. Based on these factors, in the short term, the action alternatives may impact individual woodpeckers (**MIH**) but would not likely lead to a downward trend in the population or trend toward federal listing. In the medium to long term, the action alternative would have a Beneficial Impact (**BI**) to the Lewis’ woodpecker by providing more riparian habitat.

### CANADA LYNX (*Lynx canadensis*)

**Habitat Information**- Lynx occur in mesic coniferous forests that have cold, snowy winters and provide a prey base of snowshoe hare, their primary prey (Ruediger et al. 2000). Snow conditions and vegetation types are important factors in defining lynx habitat. The primary vegetation that contributes to lynx habitat is subalpine fir where lodgepole pine is a major seral species, generally between 4,000-6,500 feet elevation. Cool, moist Douglas-fir, grand fir, western larch, and aspen forests may also contribute to lynx habitat when interspersed with subalpine forests. Dry forest types (e.g., ponderosa pine, climax lodgepole pine) are not considered habitat.

**Occurrence Information**- The Blue Mountains represent the southern extent of lynx distribution, which would explain the rarity of this species on the periphery of its range both historically and presently. The presence of lynx in Oregon in the late 1800s and early 1900s is documented by 9 museum specimens collected from 1897 to 1927 (McKelvey et al. 2000). Records after that are rare. Only 4 recent specimens are known, one from Wallowa County in 1964, one from Benton County in 1974, and one from Harney County in 1993 (McKelvey et al. 2000). Based on limited verified records, lack of evidence of reproduction, and occurrences in atypical habitat that correspond with cyclic highs, lynx are thought to occur in Oregon as dispersers that have never maintained resident populations. They are considered an infrequent and casual visitor by the state of Oregon (Ruediger et al. 2000).

The Forest conducted extensive winter track surveys for wolverine and lynx from 1991 to 1994, and no lynx tracks were found (Wolverine and Lynx Winter Snow Track Reports, 1991-92, 1992-93, 1993-94). Hair snares were used to survey for lynx, according to the National Lynx Survey, on the Forest during the summers of 1999-2001 and no lynx were detected.

Lynx habitat in northeastern Oregon is categorized as a “peripheral area”, meaning there is no evidence of long-term presence or reproduction that might indicate colonization or sustained use by lynx, but that it may enable the successful dispersal of lynx between populations or subpopulations. The Forest is considered “unoccupied” habitat because there has not been a verified lynx observation since 1999. “Occupied” habitat is defined as requiring at least 2 verified observations or records since 1999 on the Forest or evidence of lynx reproduction on the Forest.

### **Direct, Indirect, and Cumulative Effects**

**Alternative 1** - The No Action alternative would have no direct, indirect, or cumulative effects on lynx or lynx habitat because no timber harvest, **stream restoration**, or transportation activities would occur..

### **Determination**

There would be **No Effect (NE)** to the Canada lynx from any of the alternatives for this proposed project because this species is not considered present on the Forest (Wallowa-Whitman National Forest Lynx Strategy Letter April 19, 2007).

### **FRINGED MYOTIS** (*Myotis thysanodes*)

The fringed myotis ranges through much of western North America. It primarily occurs from sea-level to 9348 f, but is primarily found at middle elevations (3936-6888ft). Distribution is patchy.

**Habitat Information**-It appears to be most common in drier woodlands (oak, ponderosa pine) but is found in a wide variety of habitats including desert scrub, mesic coniferous forest, grassland, and sage-grass steppe (OOFarrel et al. 1980). They are known to roost in crevices in buildings, underground mines, rocks, cliff faces, and bridges but roosting in decadent trees and snags, particularly large ones, is common throughout its range. The fringed myotis has been documented in a large variety of tree species and it is likely that structural characteristics (e.g. height, decay stage) rather than tree species play a greater role in selection of a snag or tree as a roost (Weller and Zabel 2001). This myotis feeds on a variety of invertebrate taxa. The two most commonly reported orders in its diet are beetles and moths, however several potentially flightless taxa such as harvestmen, spiders, and crickets have been found in its diet. The presence of non-flying taxa in its diet indicates that they may glean prey from vegetation in addition to capturing prey on the wing. The potential to glean prey in concert with its wing-loading, flight style, morphological adaptations of wing and tail membranes, and design of its echolocation call indicate that the fringed myotis is adapted for foraging within forest interiors and along forest edges.

**Occurrence Information**- Records of fringed myotis occur within forest to the west of the project area within ponderosa pine forest.

**Threats**- The main threats for long term persistence of the fringed myotis is the loss or modification of roosting habitat. Removal of large blocks of forest or woodland habitat may also threaten the species due to its apparent propensity for foraging in and around trees (Ports and Bradley 1996).

## EFFECTS ANALYSIS

**Alternative 1** - There would be no direct impacts to fringed myotis from the No Action Alternative because no timber harvest, stream restoration, or transportation activities would occur.

**Alternative 2**- Project activities would remove several large cottonwood trees within the riparian area along the Grande Ronde River that have the potential to function as roosting habitat. The project is designed to avoid the majority of existing cottonwood habitat. Cottonwood cuttings along with other riparian hardwoods would be planted after construction activities are completed and ideally would contribute to a functional riparian community.

### Cumulative effects

Ongoing and reasonably foreseeable activities within or near the project area that have the potential to affect the fringed myotis include firewood cutting, prescribed fire and the Bird Track Springs Fish Enhancement project. Firewood cutting occurs primarily along roads and does not target snags or trees over 21 inches dbh so it should not have a measurable effect on roost site availability. Prescribed fire outside the project area could eliminate suitable roost sites in addition to the roost sites that would be eliminated from burning and harvest within the project area. However, prescribed fire is staggered across multiple years and the area would continue to provide a mosaic of burned and unburned habitat and thus provide an abundance of roost sites for this species. The Bird Track Springs Fish Enhancement project occurs within the same subwatershed as Longley Meadows and is currently in the implementation stage. This project implements the same restoration activities as Longley Meadow on an additional 1.2 miles of river. Project activities would contribute to cumulative effects resulting in 2.45 miles of riparian habitat affected. The Bird Track Springs Campground Project and Fish Log project occur across the highway from the river restoration and within the same subwatershed. Project activities would remove trees within potential habitat for fringed myotis, however no trees over 21 dbh and so snags would be affected by either project so cumulative effects are expected to be minimal.

**Determination**- The action alternative **May Impact Individuals or Habitat (MIIH)** but would not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species.

### **WESTERN BUMBLEBEE** (*Bombus occidentalis*), **SUCKLEY CUCKOO BUMBLEBEE** (*Bombus suckleyi*)

Many North American bumblebee species have undergone severe declines in recent decades (Cameron et al. 2011; Hatfield et al. 2014). Range losses have been documented for several species, including the western bumble bee (*Bombus occidentalis*), the suckley cuckoo bumblebee (*Bombus suckleyi*) and 27% of bumble bee species in the US and Canada are listed in an extinction risk category by the International Union for Conservation of Nature (IUCN) (Hatfield et al. 2014).

**Habitat Information**- Bumble bees inhabit a wide variety of natural, agricultural, urban, and rural habitats, although species richness tends to peak in flower-rich meadows of forests and subalpine zones. Relatively recent changes in land usage have compromised this habitat, putting pressure on bumblebee populations. In

addition to habitat loss and fragmentation, overgrazing, climate change, pesticide use, competition with honey bees, and the introduction of nonnative pathogens are all thought to contribute to the population decline of all North American bumblebees.

**Occurrence Information-** Historically *B. occidentalis* and *B. suckleyi* were found from the Pacific coast to the Colorado Rocky Mountains, but have seen severe population decline west of the Sierra-Cascade Crest. In Oregon, this species has been documented on Deschutes, Fremont-Winema, Malheur, Mt. Hood, Ochoco, Rogue River-Siskiyou, Siuslaw, Umatilla, Umpqua, Willamette, and Wallow-Whitman National Forests, and BLM land in the Burns, Lakeview and Medford Districts. Given the relatively recent range contraction for these species, it is unknown what the current “Documented” status is for many of these field units, as many of the documented sites are considered historic. Surveys conducted on the La Grande district 2014-2015 found *B. occidentalis* to be low in abundance, but present at about 50% of the surveyed sites. These same surveys only located *B. suckleyi* in two locations.

**Threats-** There are a number of threats facing bumble bees which include; the spread of pests and diseases by the commercial bumble bee industry, other pests and diseases, habitat destruction or alteration (agriculture, urban development, grazing), pesticides and invasive species. Specific to managed Forest Service lands, the invasiveness and dominance of native grasslands by exotic plants may threaten bumble bees by directly competing with the native nectar and pollen plants that they rely on. In the absence of fire, native conifers encroach upon many meadows, which removes habitat available to bumblebees. Apiaries put on National Forest land may compete with native pollinator species, putting additional stress on individuals (Hatfield et al. 2018).

## EFFECTS ANALYSIS

**Alternative 1 -** There will be no direct impacts to the Western Bumblebee from the No Action Alternative because no timber harvest, stream restoration, or transportation activities would occur.

**Alternative 2-** Stream restoration activities would impact pollinator habitat by disturbing 40 acres of soil through tilling and contouring with the excess material taken to create new stream channels. Soil disturbance in the winter and spring would directly affect any hibernating queens within the area of disturbance. Seeding of native plants, including pollinator plants would occur on 10-25 acres. Spraying of invasive species would occur for 3 years after project activities are finalized. Spraying activities would be consistent with BMP outline in the 2010 Invasive Species ROD. These activities would potentially decrease invasive plants and increase a diversity of native plants.

## Cumulative effects

Past events that affected potential Western bumblebee habitat include grazing and fire suppression and have been incorporated into the existing conditions. Present and proposed activities within the project area with a potential to affect the Western bumblebee are continuation of the current level of livestock grazing and the Bird Track Springs Fish Enhancement project. The Bird Track Springs Fish Enhancement project occurs within the same subwatershed as Longley Meadows and is currently in the implementation stage. This project implements the same restoration activities as Longley Meadow on an additional 1.2 miles of river. Project activities would contribute to cumulative effects resulting in an additional 40 acres of soil disturbance.

**Determination-** Direct effects from soil disturbance and the removal of floral resources in the short term **May Impact Individuals or Habitat (MIIH)** in the short term but would not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species.

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